Testimony of
Philip R. Sharp

Congressional Chair, National Commission on Energy Policy
Before
the Energy and Commerce Subcommittee on Energy and Air Quality
February 13, 2007

Good morning Chairman Boucher and Members of the Subcommittee. I am Phil Sharp, President of Resources for the Future, a non-partisan, non-advocacy research organization, which for 50 years has been dedicated to researching and informing policy decisions on important environment, energy, and natural resource issues. However, today, I am representing the National Commission on Energy Policy, for which I am the Congressional Chair. (As requested, further biographical information is attached.) The National Commission on Energy Policy is a diverse and bipartisan group of energy experts that first came together in 2002 and issued a comprehensive set of consensus recommendations for U.S. energy policy in December 2004.[1] Our group came to a consensus on a climate policy that could put us on a path towards a lower carbon future. This path would be economically responsible and would encourage action by our major trade partners. But before outlining key elements of that approach, let me say a few additional words about the Commission itself.

The Commission was formed in 2002 by the Hewlett Foundation with support from several other private, philanthropic foundations. The Commission's ideologically and professionally diverse 16-member board includes recognized energy experts from business, government, academia, and the non-profit sector (see attachment). Our final recommendations, which are described in our 2004 report, *Ending the Energy Stalemate*, were informed by intense discussions over several years, by dozens of analyses, and by extensive outreach to over 200 other groups. Those recommendations, I should stress, deal with a comprehensive set of energy policy issues including climate change, our nation's dependence on oil and the need for increased investment in new energy technologies and critical energy infrastructure. As a group, however, we recognized from the outset that climate change presented one of the central energy challenges of our time and so we devoted considerable effort to developing a detailed set of recommendations for addressing this issue. A short summary of the Commission recommendations on climate change is attached at the end of my testimony.

I should add that Commissioners are very grateful for the considerable work and talent of the commission staff, headed by Jason Grumet, and I additionally appreciate their preparation of this testimony.

[1] The full report can be found at www.energycommission.org.

The Science Points to Action

After reviewing the science, the Commission decided that a mandatory climate program was a prudent response to the risks of climate change. This need for action was reinforced two weeks ago, when the United Nation's Intergovernmental Panel on Climate Change (IPCC) released its latest report assessing the last six years of climate science research from around the world. The report states that evidence of warming "is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global mean sea level." The report confirms that the current level of carbon dioxide in the atmosphere "exceeds by far the natural range over the last 650,000 years."

This increase has already led to warming – eleven of the last twelve years rank among the twelve hottest years on record. The IPCC report concludes that if we take no action to reduce emissions, there will be twice as much warming over the next two decades than if we had stabilized heat-trapping gases at 2000 levels. Clearly, we must begin to face this challenge. The costs of delay in initiating reductions are likely to be substantial. The faster we can get started, the smaller the burden of future mitigation and adaptation efforts and the smaller the human suffering and long-term environmental damage.

Elements of an Effective Climate Change Policy

With the potential risks of climate change no longer in doubt, it is imperative that the United States engage this issue, act responsibly, and provide leadership. Ours is the world's largest economy and it accounts for 25% of global CO2 emissions.[2] Without our participation and leadership, the rest of the world cannot effectively address what could be the most difficult and far-reaching environmental problem we have yet faced. The Commission believes that the U.S. can best provide leadership by adopting approaches that do not significantly harm our economy and that encourage other nations to take comparable action.

The Commission spent two years reviewing a range of policy options on climate change. We became convinced on the basis of more than a decade of experience that voluntary approaches alone are not adequate. In a competitive market economy, where companies are expected to maximize shareholder value, it is unrealistic to expect them to invest significant resources absent a profit motive. While there are numerous cases where a combination of good will, good public relations, and positive ulterior motives (like reduced energy bills), create an adequate basis to reduce greenhouse gas emissions, these cases will remain limited if the financial value of reducing those emissions remains zero.

[2] Note that although carbon dioxide is the predominant greenhouse gas, there are other gases that contribute to climate change. These include methane, nitrous oxide, and some industrial fluorinated gases. These gases would all be covered in the Commission's climate proposal.

It is for this reason that the Commission strongly endorsed a mandatory program to address climate change.

What are the critical components of a mandatory approach on climate change? First, we believe that the immediate goal should be to put in place a policy architecture or framework that can last many years and be adjusted as we learn more about the evolving science, economic impacts, technological developments, and actions of other nations. We must get started with a clear signal to investors, consumers, and other nations. In the 2004 report, the Commission's specific recommendations would have us start slow, moving over a ten year period to reduce the growth rate in emissions. This would be followed by a period of preventing further growth in emissions, with an ultimate long term goal of getting absolute reductions. In light of recent scientific developments and the time that has passed since NCEP's 2004 recommendations, the Commission has begun evaluating opportunities to strengthen its proposal

Second, a climate change program should be market-based and economy-wide. We are convinced that market-based approaches, like the landmark Acid Rain Program, are the most effective way to marshal the least cost emissions-reduction options and to create powerful technology incentives. Yet, unlike the Acid Rain Program, which focused just on the power sector, we believe that a climate program should cover the entire economy. In contrast to sulfur dioxide, which is primarily emitted by the power sector, CO_2 emissions arise from fossil-fuel consumption throughout the economy. It should be noted that a climate cap and trade program will be far larger than the acid rain model and will involve a host of tough issues. The commission has held workshops on these issues, and my colleagues at Resources for the Future are doing in-depth analysis of them.

Third, we continue to believe that cost certainty is critical to forging the political consensus needed to move forward without further delay. To date, debate about the economic impact of climate proposals has been characterized by intense arguments over whose economic model had the right assumptions about technology change, fuel prices, and other factors. Different assumptions can produce wildly different estimates of the costs of reducing emissions. The safety valve feature in our proposal—which would make additional emissions allowances available for purchase from the government at a predetermined, but steadily escalating price—helps to cut through that debate by assuring that the per-ton cost of emissions reductions required under the program cannot rise above a known level. In other words, even if an economic analysis is overly optimistic, the use of a safety valve allows Congress to hedge its bet about the ultimate impacts on the economy.

The Commission recognizes that the decision to include a "safety-valve" to cap costs under an emissions trading program is highly controversial. It obviously provides greater certainty about controlling costs and less certainty about controlling emissions. The Commission concluded this was the prudent course, emphasizing the critical importance of getting a policy in place while addressing the claims of opponents of action that costs would be excessive. This approach seems particularly appropriate given the

recent experience with price volatility in the European Emissions Trading Scheme (EU ETS), which has illustrated that cost uncertainty can undermine both public confidence in the system and long-term investment. Although the Commission opted for initially providing greater economic reassurance, the group recognized that at some point in the future, the need for environmental certainty may outweigh the need for cost certainty. Indeed, once there is greater international consensus about the ultimate goal of emission reduction efforts and about the means necessary to achieve that goal it will likely be appropriate to transition away from the safety valve toward firm emission caps. The Commission also recognizes that other legislative proposals provide alternative approaches for containing program costs. We welcome further analysis and debate on which mechanisms best address the cost and competitiveness concerns that have been raised by labor unions, energy-intensive industries, consumer groups, and others.

Fourth, the Commission believes that any successful national policy must place considerable emphasis on promoting wider international cooperation. By some accounts, China is now adding new coal capacity at the rate of one large power plant every week to ten days and is set to surpass the United States in total carbon emissions as early as 2009.[3] Though some will argue that this sobering development weakens the case for unilateral action by the United States, the Commission draws the opposite conclusion. In our view, the current trajectory of global emissions instead underscores the liabilities of continued paralysis. If one accepts that rapidly industrializing countries like China and India are likely to accept emissions limits only after the United States and other wealthy nations have demonstrated a willingness to take the lead, it follows that postponing action will come at a high price—not just in terms of U.S. emissions but in terms of prolonging business-as-usual trends in other countries. At the same time, we continue to believe that once the United States takes action, it is imperative that within a reasonable time frame our major trade partners and other large emitters follow suit. The Commission therefore proposed a five-year review provision, which would link continued tightening of the emissions target and further increases in the safety valve price to significant action by these countries.

Fifth, the Commission's emphasis on the necessity of a major technology program to spur the development and deployment of lower-carbon technologies follows directly from our judgment that near-term progress demands a policy with modest initial costs. We strongly believe that a combined strategy of market signals and robust technology incentives is the most effective and least costly way to achieve a meaningful shift from business-as-usual trends, while equitably sharing the burden of emissions mitigation among shareholders and taxpayers. A further critical element of the Commission's approach, therefore, is the inclusion of a complementary package of public incentives for the accelerated development and early deployment of promising low-carbon technologies.

Sixth, the Commission continues to believe that solutions to climate change must be pursued in concert with other important energy policy objectives. In fact, one of the Commission's founding premises has been that America's energy challenges call for a

[3] See http://select.nytimes.com/search/restricted/article?res=F50B12F83A5B0C748CDDA80994DE404482

comprehensive response—that efforts to address oil security or climate change will fail if they do not also include complementary policies to promote improved efficiency and assure ample, reliable, and affordable energy supplies. Without making any attempt to review the full suite of issues and recommendations included in our 2004 report, I would like to flag four key areas. First, there must be a concerted push to improve transportation efficiency and reduce oil demand. The Commission's central recommendation in this regard consisted of a call for Congress to "significantly strengthen" and "simultaneously reform" the existing Corporate Average Fuel Economy (CAFE) program. Second, the cheapest, cleanest, and quickest response to climate change and security concerns is to target energy efficiency. The Commission report endorsed strengthening of energy efficiency standards and believes this is a critical piece of the solution. Third, the Commission noted the importance of nuclear power in our future energy mix, and recommended several measures to reduce the obstacles to an increased role for this zero-carbon technology. Finally, the Commission believes that incentives for advanced coal technologies, such as IGCC with geologic sequestration, should be a priority as we move forward.

Economic Impacts of Mandatory Action

We are encouraged that economic analysis has allowed us to address one of the questions at the heart of the debate over climate legislation: Is it possible to take a meaningful first step to limit greenhouse gas emissions without harming the economy? A 2005 Energy Information Agency (EIA) analysis of the Commission proposal demonstrates that the answer is yes. EIA found that under the proposal, the overall growth rate of the economy during the period of analysis was "not materially altered." In a recent analysis of a similar, but somewhat more stringent proposal, EIA found that U.S. GDP in 2030 is reduced by only one quarter of 1 percent compared to the baseline case. This is equal to slowing the rate of economic growth by roughly one month over the next 20 + years.

To say that greenhouse gas limits can be imposed without harming the economy is not to claim that the program is costless. Any honest debate will need to acknowledge that there *are* costs and that—as with any public policy intervention—there will be winners and losers. For example, according to EIA's recent analysis of a proposal similar to the Commission's, electricity prices would increase by 11% and the growth in coal use would be cut in half by 2030. We do not doubt that innovative and efficient companies can prosper under a carbon mitigation regime. Moreover we believe that the technological innovation sparked by a carbon price signal could well produce additional non-climate benefits in the long run. In the near term, however, the same price signal will impose new costs on fossil fuel consumption and reduce the value of carbon-intensive capital stock. So yes, there will be costs. But as always, the real choice is not between some cost and no cost. Rather the relevant question is whether the costs of action are reasonable and justified when compared to the liabilities of inaction. We believe that if a program is designed with the elements I've mentioned in my testimony, the answer to this question is yes.

One important economic aspect of a cap and trade program is the distributional issue of who gets valuable emissions allowances. The Commission's 2004 report established the principle that all allowances need not be distributed for free to emitting sources. We recommended that a portion of the allowances (5-10%) should be auctioned, with the revenues funding the development and deployment of low carbon technologies. Subsequently, Commission staff has given additional thought to this issue. This week, they are releasing a new staff white paper that outlines an allowance distribution approach. A central conclusion of that white paper is that at most 50% of the emissions allowances initially available under a mandatory trading program should be distributed for free to private interests, including major energy producing or consuming firms. The remaining 50% of available allowances should be directed to public purposes where those purposes could include mitigating impacts on low-income consumers; investing in low-carbon energy technologies and end-use efficiency; creating incentives for agricultural carbon sequestration; and reducing the federal budget deficit and/or supporting broader tax reforms.

Over time, moreover, the proportion of allowances directed toward public purposes should continue to increase gradually as private entities have an opportunity to adjust to carbon regulation. Such an approach would represent a significant departure from the allocation model used in the Acid Rain Program and in the first phase of the European Union's emissions trading program, but would result in a far more equitable distribution of burdens across different stakeholders in the economy. We are submitting a copy of the NCEP staff's new white paper to the Committee with my testimony.

In conclusion, the message from the Commission is that it is time to get started. A delay in action by the U.S. will have a multiplicative effect on emissions because it will lead to additional delay in engaging China and other countries. These countries will be unwilling to act until the world's wealthiest and highest emitting country does so. I hope Congress will not lose sight of this fact as the inevitable debate about numbers and dollars and tons and jobs unfolds in the months to come. A war of numbers too easily leads to paralysis. And right now it matters less exactly which numbers you choose than that you recognize the essential principle at the core of our proposal: Strictly voluntary, seemingly costless approaches will not enable the marketplace to attach a known value to carbon reductions. Only when emission reductions have real value can companies justify serious long-term investments in new, low-carbon energy alternatives and only then will we unleash the ingenuity and innovation of the private sector in addressing the climate change problem and in developing the clean technologies that will be in global demand for decades to come.

Mr. Chairman, thank you again for this opportunity to testify today and for your leadership on this critical issue. We hope that the design principles in the Commission proposal will be helpful, even as we recognize that ours is not the only approach and that there are many worthwhile ideas that the Committee will consider as it moves forward. The Commission and its staff would be happy to provide assistance to you as the Committee moves forward with its important work.

NCEP FACT SHEET ON CLIMATE CHANGE

Summary of December 2004 Proposal

- The Commission proposes a mandatory, economy-wide tradable-permits program designed to slow projected growth in greenhouse gas emissions while capping the initial cost of reductions at $7 per metric ton of carbon dioxide (CO_2)-equivalent.

- The proposed tradable-permits program would go into effect in 2010. Thereafter it would be reviewed every five years to assess its efficacy and to determine whether emission mitigation efforts by other nations (including major trading partners such as China and India), together with evolving scientific understanding, warrant adjustments to the U.S. program.

- Starting in 2010, the U.S. government would begin issuing permits for greenhouse gas emissions. The initial quantity of permits issued each year would reflect a 2.4 percent per year reduction in the emissions intensity of the U.S. economy, where emissions intensity is the ratio of emissions in tons per dollar of GDP.

- Initial emissions budgets would be calculated well in advance, using widely accepted GDP forecasts. The vast majority of permits would be distributed at no cost to emitting entities, with a small quantity of permits (5 percent at the outset) set aside to be auctioned to accommodate new entrants and to finance climate-friendly technology appropriations and incentives. The quantity of permits auctioned would begin increasing gradually in the third year of program implementation at a rate of 0.5 percent per year (e.g., to 5.5 percent of the total permit pool in 2013; 6.0 percent of the total permit pool in 2014; etc.) up to a maximum of 10 percent of the total permit pool.

- To limit possible costs to the economy, the government would sell additional permits at an initial price of $7 per metric ton of CO_2-equivalent. This so-called "safety valve" price for additional permits would increase by 5 percent each year in nominal terms, thereby providing a market signal for avoided emissions that grows gradually stronger in real terms over time.

- Absent adjustment by Congress as a result of the first five-year review in 2015, the Commission recommends that targeted greenhouse gas intensity reductions increase to 2.8 percent per year starting in 2020.

- The Commission proposal is designed to first slow emissions growth (over the period from 2010 through 2019), before attempting to stop emissions growth starting in 2020. Ultimately, emissions will need to decline in absolute terms to stabilize greenhouse gas concentrations in the atmosphere. The Commission has focused on developing a policy framework that can be adapted as science, technologies, and international consensus evolve.

- Absent policy action, annual U.S. greenhouse gas emissions are expected to grow from 7.8 billion metric tons of CO_2-equivalent in 2010 to 9.1 billion metric tons by 2020 — a roughly 1.3 billion metric ton increase. Modeling analyses suggest that the Commission's proposal would reduce emissions in 2020 by approximately 540 million metric tons of CO_2-equivalent below this business-as-usual forecast.

NCEP COMMISSIONERS

To Be Added